

### 5.8.3.3 Upgrade the Statewide Microwave Backbone Infrastructure to Digital Technology

#### NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
None	None	None

**Gap Statement:** The current statewide microwave network is owned, operated, engineered, and maintained by DPS and provides microwave connectivity for local, state, and federal public safety and/or service agencies throughout Arizona. Although built primarily to support State agency radio systems, many other agencies use some portion of its capacity.

In order for the statewide microwave network to continue to provide the infrastructure needed to support its mission, an upgrade of the microwave backbone to digital technology is required. A digital backbone must be in place for Arizona to implement a modern, standards-based, interoperable public safety radio communications system for the state. The southern loop has been successfully upgraded but the balance of the Microwave Network still needs to be upgraded.

**Initiative Description:** This initiative is designed to support the move from the current analog microwave system to a digital microwave system.

**Priority:** High

**Term/Timeframe:** Long-term (2017)

**Lead/Owner:** DPS/WSB

#### Primary Participants:

- Local agencies
- Tribal agencies
- State Agency Users

#### Action Plan:

- 1) Identify connectivity gaps
- 2) Identify alternate routing and site options
- 3) Complete necessary site/tower modifications
- 4) Acquire necessary microwave infrastructure
- 5) Configure microwave infrastructure for deployment
- 6) Test associated microwave equipment prior to deployment
- 7) Deploy equipment to designated location(s)
- 8) Ensure completed loop connectivity

**Objectives:**

- 1) Complete the Microwave Southern Loop Connectivity (2010 –Complete)
- 2) Complete the Microwave Southwestern Loop Connectivity (subject to funding availability)
- 3) Complete the Microwave Northwestern Loop Connectivity (subject to funding availability)
- 4) Complete the Microwave Northern Loop Connectivity (subject to funding availability)

**Performance Measures:**

- 1) Complete Southern Loop digital capability and redundancy (Complete)
- 2) Complete Southwestern Loop digital capability and redundancy
- 3) Complete Northwestern Loop digital capability and redundancy
- 4) Complete Northern Loop digital capability and redundancy

**Critical Success Factors/Risks:**

- 1) Availability of resources (e.g., funding, staffing, equipment, etc.)
- 2) Access to and integrity of physical infrastructure elements to support the microwave equipment
- 3) Identification and procurement of new infrastructure sites
- 4) Spectrum availability and licensing
- 5) NEPA assessments and approvals
- 6) Identification of long-term maintenance and sustainability resources
- 7) Cooperation of federal, state, local, and tribal agencies

**Funding:**

- Federal
  - SHSGP
  - PSIC
- State
  - DPS
- Local

**Potential funding**

- Federal
  - UASI

**Outreach Plan:** Utilize existing and develop new statewide partnerships to enable microwave upgrades. Update the PSCC and SIEC on initiative progress. Provide required updates to PSIC, the AZDOHS, and the Joint Legislative Budget Committee (JLBC). Periodically update regional partner groups on microwave upgrade progress.